

METHODS AND COMPOSITIONS FOR NUCLEIC ACID DETECTION AND SEQUENCE ANALYSIS

ABSTRACT OF THE DISCLOSURE

A population of labeled probes is provided that utilize an encoding system in which both the intensity and specific characteristics of a signal molecule are utilized to reduce the number of signal molecules necessary to identify each member of the population of probes. In the population of labeled probes, each labeled probe includes a probe associated with a series of detectably distinguishable signal molecules. The number and type of signal molecules identifies the associated probe, and the number of probes in the population exceeds the number of unique signal molecules. The population of probes are used in methods of the invention and reaction mixtures of the invention, for identifying a target molecule and for sequencing a nucleic acid molecule, for example.